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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/361,803	07/27/99	KUNIEDA	M 35.G2440

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EXAMINER

RODEE, C

ART UNIT	PAPER NUMBER
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1753

DATE MAILED: 01/02/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
09/361,803

Applicant(s)
Kunieda et al.

Examiner
Christopher RoDee

Group Art Unit
1753



☒ Responsive to communication(s) filed on 20 Nov 2000

☒ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire three month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 11 and 12 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 11 and 12 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☐ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

Art Unit: 1753

DETAILED ACTION

Response to Amendment

The instant claims are understood to require one compound from the formulae (1) through (4) and not these compounds in combination.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as obvious over Pai *et al.* in US Patent 6,025,102 in view of *Organic Photoreceptors for Imaging Systems*, to Borsenberger, pp. 330-338.

In response to this rejection as previously set forth applicants have amended the claims to now require a specific exposure means for the process cartridge and a specific photosensitive member for both the process cartridge and electrophotographic apparatus.

In response and as discussed previously, the Examiner notes that Pai discloses a photosensitive member having a conductive support, a charge generation layer, and a charge transporting layer. The charge transporting layer components (first and second charge transporting compounds) are selected so that the final charge transport layer is transparent to radiation in the range of exposure, which is suggested as 400 to 800 nm. The charge transporting layer contains compounds which are free of long chain alkyl carboxylate groups (first charge transport compounds) such as those given by the formula in column 12, line 35, forward.

Art Unit: 1753

These compounds are substituted arylamines according to the formula (1) in the claims as now presented. These compounds also meet the formula (4) where they are the disclosed biphenyl diamines. Further, the disclosed amine compounds in col. 13, l. 46-51 also meet the requirements of the claimed formulae (1) and (4) when the Ar groups are substituted. Also see Example 1 where TBD is exemplified. This compound meets the requirements of the formulae (1) and (4).

Borsenberger teaches well known perylene charge generation pigment that are sensitive to wavelengths in the 400 to 500 nm range (see Figures 13 and 14). This reference specifically states that the compounds have sensitivity such as at 500 nm (p. 331 & 335).

In the last Office action, the Office took Official Notice that the claimed process cartridge and electrophotographic apparatus are well known in the art. Such devices with the claimed means are exceedingly well known. Applicants did not contest this position in the response. Further, the Examiner takes Official Notice that a process cartridge with the claimed semiconductor laser is well known in the art and that semiconductor lasers with the claimed oscillation wavelength are well known in the electrophotographic arts for exposing electrophotographic photosensitive members.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to choose charge transporting compounds which are not absorbing at wavelengths such as from 400 to 500 nm (i.e., at or near zero absorbance) because Pai teaches that the charge transport layer should not be absorbing in the portion of the 400 to 800 nm wavelengths where the charge generation compound absorbs while Borsenberger teaches that well known charge generation materials such as perylene absorb in the 400 to 500 nm range. Thus, in order to practice the invention suggested by Pai in the exposure area taught as useful, the artisan would

Art Unit: 1753

select substituents for the first charge transporting compound so that the compound does not absorb or minimally absorb in the spectra of the perylenes, which absorb in the area of the spectra of interest. The artisan would have found it obvious to use the obvious photoreceptor in the well known process cartridge or electrophotographic apparatus because this permits the artisan to automate the copying process for home or office settings. The artisan would have found it obvious to match the exposure source in the device or apparatus to the sensitivity of the photogenerator to obtain maximum charge generation effect.

Applicants also traverse the instant rejection stating that the disclosure of "light" for the exposure of the photosensitive member would be understood to refer to the conventional use of a long wavelength of light, such as from 700 to 800 nm. Applicant state that the Pai reference does not suggest a photosensitive member having the claimed transmittance in the wavelength of from 380 to 500 nm.

The Examiner again relies upon the disclosure of Pai which teaches that the charge transport layer is transparent in the wavelength region where the photosensitive member is to be used. The reference explicitly teaches the use of wavelengths of from 400 to 800 nm and thus clearly does not implicitly limit its exposure wavelength to the 700 to 800 nm asserted in the response. The reference discloses wavelength in the range of 400 to 800 nm. Exposure at or near 400 nm is explicitly taught by the *ipsis verbis* recitation of 400 nm. Given this disclosure the artisan would look to use known charge generation materials which are sensitive in this range.

Borsenberger teaches that perylenes are useful charge generating compounds for use in the shorter wavelength exposure area of Pai. This reference further evidences that the artisan would not understand exposure to "light" as used by Pai as limited to 700 to 800 nm. The Borsenberger reference teaches known charge generation compounds which are sensitive in the

Art Unit: 1753

lower (i.e., shorter) exposure wavelengths. As these compounds are most sensitive in these shorter wavelengths and have minimal sensitivity in the 700 to 800 nm range, their disclosure as charge generating compounds shows that the artisan would understand light exposure as including a broader range than asserted by applicants, this range including the 400 to 500 nm range (see Borsenberger Fig. 13 & 15). Each of the passages in Borsenberger referenced by applicants includes exposure outside the 700 to 800 nm range and includes exposures within the claimed range, although the range of sensitivity can be expanded by doping.

The rejection as modified above for the claim amendments remains applicable to the claimed invention.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Art Unit: 1753

Any inquiry concerning this communication should be directed to Exr. Christopher RoDee at telephone number 703 308-2465 or via the receptionist at 703 308-0661 for general or status inquiries. Submissions by fax may be accepted at the following telephone numbers:

Official fax: 703 872-9310
After Final fax: 703 872-9311
Unofficial fax: 703 305-6078



**CHRISTOPHER RODEE
PRIMARY EXAMINER**

cdr
29 December 2000